Needs Assessment and System Design Report for the Ministry of Health, Kenya

Health Care Financing
Ministry of Health
Republic of Kenya

Submitted by:

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1. Introduction

This is a needs assessment and system design report for the consultancy to redesign the Financial Information System for the Division of Health Care Financing, Ministry of Health, Kenya.

The report has been compiled through:

- a review of the existing F.I.S;
- interviews with Health Care Financing and Health Information Systems officials;
- a trip to Coast Province, 18-20 November 1998
- a trip to Eastern Province 30 November - 1 December 1998
- a workshop held at Utalii Hotel, 11-12 March 1999

The next steps are to :

- Get approval from the AFS Project / Health Care Financing Secretariat on this report, so system development can proceed
- Print the necessary forms, and have them tested in Coast Province and implemented in the other provinces
- Send out F.I.S. baseline data sheets to all provinces
- Have computers procured for the PMO Offices in Coast, Eastern and Western Provinces
- Organize preliminary training for staff in PMO Offices in Coast, Eastern and Western Provinces

i)   Persons Met

Division of Health Care Financing

Mr. Hussain	-	Divisional Head
Mr. Munga	-	Deputy Head
Mr. Kiganjo	-	Accounts
Mr. Nyabiosi	-	P.H.C. Section
Mr. Mutua	-	Data Section
Ms. Ogoye	-	Data Section
Mr. Sliney	-	Management Sciences for Health
Mr. Njiru	-	Management Sciences for Health

Health Information Systems

Mr. Runyago	-	Head of H.I.S.
Mr. Kimani	-	Statistician, H.I.S.
Mr. Mwariri	-	Systems Developer for H.I.S.

Coast Province

Dr. Sharif   -   Provincial Medical Officer, Coast Province
Dr. Gitembu   -   Medical Superintendent, Coast P.G.H.
Joyce Mshambala   Copy Typist, PMO's Office
Jones Mwashusha   H.I.S., Coast

Eastern Province

Dr. Kimani   -   Acting Provincial Medical Officer
Mr. Katonyi   -   Provincial Health Administrator
Mr. Ribui   -   District Accountant
Mr. Njeru   -   Accountant for Cost-Sharing, District Accountant's Office
Mr. Njeru   -   Clerical Officer, PMO's Office
Mr. Njagi   -   Medical Superintendent, Embu P.G.H.
Mr. Karani   -   Embu P.G.H. Accountant (attached from Dist. Treasury)
Mr. Mugo   -   Senior Clerical Officer in Accounts (Ministry of Health)
Mr. Gachukia-   Health Administration Officer
Mr. Mugabi   -   Acting NHIF Cashier

ii)   Workshop Attendees

The following persons participated in the F.I.S. Design Workshop at the Utalii Hotel on 11th - 12th MARCH 1999:

NAME	**ORGANIZATION**	**DESIGNATION**
Dr. Richard Muga	PMO Nyanza Province	PMO
Dr. Olango Onudi	PMO Eastern Province	PMO
Dr. Kenneth C hebet	PMO R. Valley Province	PMO
Dr. S.K. Shariff	PMO Coast Province	PMO
Dr. M. Wangai	PMO Nairobi Province	PMO
Dr Mohamed	PMO N.E Province	PMO
Dr Amira	PMO Western Province	PMO
Dr Ritho	Dep. PMO Central Province	Dep PMO
Dr. Misore	Hos. Sup, Nyanza PGH	Med. Supt.
Dr. Kagondo	Hos. Sup. Embu PGH	Med. Supt.
Dr. Sonoiya	Hos. Sup. Nakuru PGH	Med. Supt.

NAME	ORGANIZATION	DESIGNATION
Dr Adeng Yussuf	Hos. Sup. Garissa PGH	Med. Supt.
Dr Diero L.O	Hos. Sup. Machakos	Med. Supt.
Dr Ogonji GA	Hos. Sup Kisumu Dist Hospital	Med. Supt.
Ibrahim Abdille	Division of Health Care Financing	H/DHCF
Sam Munga	Division of Health Care Financing	SHAO
Janet Mugo	Division of Health Care Financing	ASA
J. K. Gichuhu	DS/F	DS/F. MOH
S.J. Kalama	Ag. CHAO	CHOA
Mr William Magogo	PMO's Office Coast Province	PPHO
Daniel Kanyotu	PMO's Office Eastern Province	PPHO
Kitua M.C	Coast Gen Hospital	Accountant
Francis Gikunda	Afya House	HR10
Mr H.B. Komen	NHIF	Insp. I/C Claims
Mrs V.W Njogu	Rep PAC	S. Accountant
Ian Sliney	MSH/AFS Project	COP
Silas Njiru	MSH/AFS Project	Financial Analyst
Paul Krystall	Data Dynamics	
Sammy Irungu	Iceberg Consultants	

2.   Needs Assessment

As the officer who approves all AIE's, the PMO is the Ministry of Health's main agent for the running of the cost-sharing programme. In the new F.I.S., all of the data will be input in the PMO's office. It will be necessary for the PMO to provide resources to ensure data is entered and up-to-date. For these reasons, it is necessary that the system is designed primarily as a useful tool for a PMO to manage the day-to-day tasks of running the cost-sharing programme.

The system will also provide reports to the HCF and HIS at the national level, the PMOs, and the District Health Management Boards, Hospitals and Hospital Boards.

i)   PMO Needs

a)   Reporting Rates
The PMO needs to see reporting rates of all returns to allow swift follow-up for facilities that have not reported, and to determine whether a facility has submitted their returns when deciding whether or not to issue an A.I.E.

Specifically, the PMO needs to see facilities that have / have not submitted their:
- Workload forms
- Collection forms

And facilities / districts that have not submitted their:
- Payment Commitment Summary
- Monthly Cash Book Report / Bank Reconciliations

b)   Levels of Collections / Banking
The PMO needs to see levels of collections and banking by district and by facility on a monthly basis to monitor the success of the cost sharing programme.

c)   Correlation between Workload and Collections
The PMO needs to see a report correlating workload data (compiled by records officers) and collection data (compiled by the accounts). If fee levels per item are known, then workload data can be used to estimate expected collection levels. If the collection levels for a department are lower than expectations, this needs investigation.

d)   Data Required when Approving AIEs
This will include:
- Reconciled Bank Balance and Cash Book Balance

- How much of the bank balance is the 75 % for the facility in question
- (And how much of the bank balance is the 25% for District PHC activities)
- Previous AIEs issued and payments and commitments against these AIEs, and available balance
- Reporting Rates
- (as well as the proposal for expenditure)

e) Record of AIEs Issued by PMO

The PMO needs a record of AIEs issued per item, per facility and per district.

f) Exception Reporting

The PMO needs exception reports, which are reports that identify possible problem areas:

- Facilities where banking is less than collections.
- Facilities where collections are less than targets.
- Facilities where NHIF collections are less than targets.
- Facilities where NHIF balance outstanding is rising.
- Facilities where actual revenues are less than expected revenues (based on workload data).
- Facilities where expenditures are less than AIEs, (i.e: unspent balances).
- Facilities where expenditures do not correspond to AIE approvals.
- Facilities where expenditures exceed collections.
- Bank Accounts whose balances are too high or too low.

g) Reference Lists / Facility Inventory

PMOs need the ability to produce reference lists of facilities in their province and the number of beds, and incorporate these lists into word-processed documents and spreadsheets.

h) Data for Annual Reports

PMOs produce annual reports. For these reports, collection and workload data must be available in a calendar-year formats. The reports should also be available as graphs. For example, Coast province needs a report per facility and per district plotting occupied bed days. In addition, graphs plotting collection data versus workload data should be produced.

ii) Facility Needs

a) Workload vs. Collection Data

The facility management needs departmental breakdowns of collection data. This will enable them to set priorities, by concentrating efforts on improving

performance in the departments with the greatest revenue potential. They can also use this information when reviewing fees.

The hospitals also need workload information.

The hospitals need departmental breakdowns of workload vs. collection data for control purposes, as well as departmental breakdowns for waivers and exemptions.

iii)   Division of HCF Needs

The Division of Health Care Financing needs:

- Overall information for monitoring the programme.

- Overall information for policy formulation.

- Overall information for financial reporting.

iv)   HIS Needs

The H.I.S. department needs the Workload data, which will now be collected through the Financial Information System. The H.I.S. department will receive this data on diskette.

v)   District MOH / District Health Management Board Needs

A central role of DHMBs is monitoring performance of districts and facilities with respect to collection and expenditure of FIF revenue.

They will therefore need timely summary reports from system, and most of the reports that the PMO needs.

3.   Inputs Required

i)   *Screens*

The system will contain the following screens:

a)   Facility Fee Level Information

For each facility, the F.I.S. will need to store the current fee levels.

Document: We will need a form for requesting or informing the PMO of fee changes.
Frequency: Whenever fee changes are requested / done.
Filled by: Facility
Flow: Filled by facility, sent to PMO, (PMO approves if necessary), and entered into F.I.S. The HCF might have to approve?

FIS_Fees							

Facility Code [1 ▾]   **Fees**
Date Updated [01/01/1999]

I.P. Cash:	General	100	Pediatric	20	Maternity	100	Aamenity	500
Deliveries:	Normal	500	Abnormal	500	C. Section	3000	Major Surgery	3000
X - Ray:	Simple	200	Special	250				
Lab:	Routine	40	Special	60	Very Special	80	Child	20
Dental:	Attendance		Filling	300	Extraction	80		
Exams:	Medical Exam	200	Post Mortem	300				
Theatre:	Minor Surgery	300	Circumcision	300	P.O.P.	300		
Mortuary:	Ward Body/Day	150	Home Body/Day	200	Other Body/Day	300		
Physio:	Physio. Normal	40	Physio. Private	150	OccTh. Normal	40	OccTh. Private	150
O.P.:	Dressings	20						
Pharmacy:	Common	30	Antibiotics	70	Special Antibiot	100	Children	20

Record: |◄ ◄ [1] ► ►| ►* of 1

b)   Targets

Screens will be required for entry and update of :
- annual NHIF target
- annual collection targets

c)   Budgeted expenditure (AIEs)

Document: A.I.E. form
Frequency: Each A.I.E. (normally quarterly per facility)

Filled by: PMO
Flow: Filled by PMO and entered into F.I.S.
Modifications: Add column for expenditure code, and possibly a column for
                  whether the item is 75% or 25%
Note: A single e have seen evidence of the following:
  - A single AIE approving expenditure for multiple facilities
  - A single AIE approving expenditures for both 75% facility and 25% PHC
  If this is going to keep happening, then the form below will not work! We must
  decide on the A.I.E. rules.

Figure 1 - AIE Entry

Reports:
A.I.E. Registers with Total Amounts Approved will go to PMOs.
Reports listing details (including item description) of each A.I.E. will go to
facilities and hospital boards.

d)   Actual expenditure by facility

Alternative (1)

Document: F.I.S. Expenditure Report
Frequency: Monthly
Filled by: Facility
              Plus one form by District MOH for 25 % PHC Expenditure
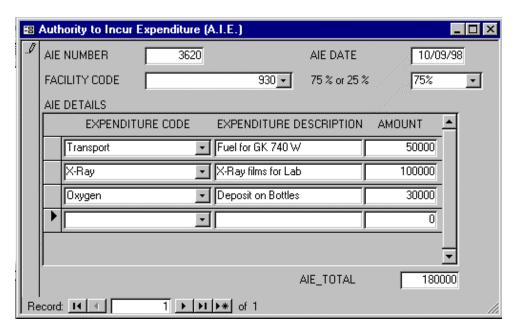Flow: Sent to PMO and entered into F.I.S.
Modifications: Columns should be per expense item, and should Include Row
              Headings for :
                        AIE Amounts Brought Forward
                        New AIEs This Month
                        Payment Details
                        Total Expenditures this Month
                        Cumulative Expenditures Previous Months (this f/yr)
                        Total Expenditures this fin. Yr.
                        AIE Balance Carried Forward
                        Commitments Not Yet Paid
                        Available AIE Balance
Alternative (2)

Document: F.I.S. Cumulative Expenditure and Commitment Summary
Frequency: Monthly
Filled by: District Accountant (or by facility if the facility keeps its own vote
              book)
              Plus one form by for 25 % PHC Expenditure
Flow: Sent to PMO and entered into F.I.S.
Modifications: We would have to introduce this form which does not currently
              exist. The format would be as follows:

Monthly F.I.S. Cumulative Payment and Commitment Summary					
Facility: _____ Month: _____ Year: _____					
Expense Item Code	**Expense Item Description**	**Cumulative A.I.E.'s**	**Cumulative Payments**	**Cumulative Commitments**	**Available Balance**
100	Transport	574,338	572,748	-	1,590
110	Travel	116,940	113,706	-	3,234
	Dressings	245,840	227,052	-	18,788
		250,000	150,000	80,000	20,000
Etc					
Etc					
Totals		1,187,118	1,063,506	80,000	43,612

This information would be compiled from the vote book each month. It would be
readily available from the vote book, and would provide all of the information
needed by the PMO. If further details were needed, they could be obtained. If it

is felt that this information can be compiled by the district treasury and passed on to the PMO, it is preferable to a report from the facilities, because the report requires accurate accounting records to compile.

e)   Actual collections by facility

Document: F.I.S. Collection Report
Frequency: Monthly
Filled by: Facility
              Flow: Sent to PMO and entered into F.I.S.
Modifications: Columns should be per collection item, and should Include
              Headings for :
- Mortuary
- Waivers
- Exemptions (can waivers and exemptions be written together, or are they needed separately? Also, do we need waiver/exemption information by department?)
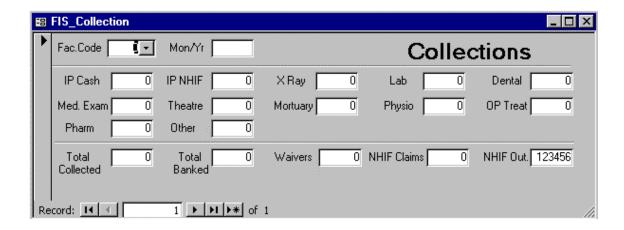- NHIF claims this month
- Total NHIF outstanding at the end of the month

FIS_Collection — Collections

Fac.Code		Mon/Yr							
IP Cash	0	IP NHIF	0	X Ray	0	Lab	0	Dental	0
Med. Exam	0	Theatre	0	Mortuary	0	Physio	0	OP Treat	0
Pharm	0	Other	0						
Total Collected	0	Total Banked	0	Waivers	0	NHIF Claims	0	NHIF Out.	123456

Record: 1 of 1

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f)   Monthly banking details

- bank balance
- cash book balance
- data on what portion of the bank balance is available for each facility for 75% and what portion is for the 25%.
  (the format of this information, as well as the source of it, needs to be agreed upon).

g)   Monthly NHIF Information

- Claims
- Balance Outstanding
  (these 2 fields should be added to the collection form and input when the collection form is input).

h)   Workload utilization statistics

Document: Form 717A
Frequency: Monthly
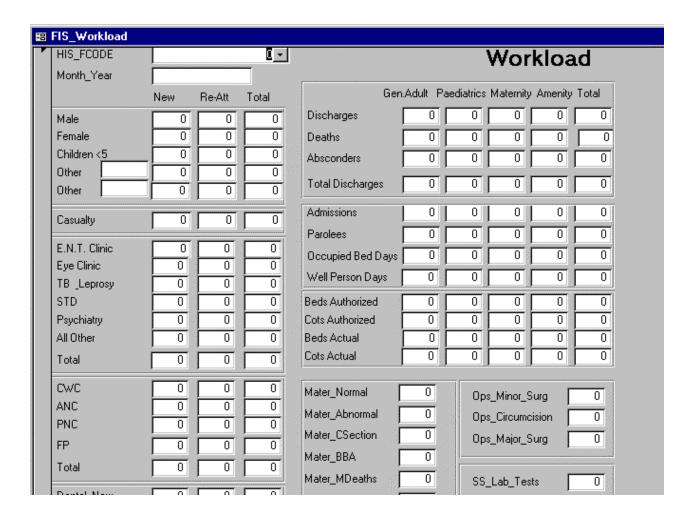Filled by: Facility
Flow: Sent to PMO and entered into F.I.S.
                 Then sent electronically to H.C.F. and forwarded to H.I.S.
Modifications: Might have to modify to include data needed by facility
                 management and data needed for correlation with targets and
                 collections.

FIS_Workload

Workload

HIS_FCODE		[ ] ▼
Month_Year		

	New	Re-Att	Total
Male	0	0	0
Female	0	0	0
Children <5	0	0	0
Other	0	0	0
Other	0	0	0
Casualty	0	0	0
E.N.T. Clinic	0	0	0
Eye Clinic	0	0	0
TB _Leprosy	0	0	0
STD	0	0	0
Psychiatry	0	0	0
All Other	0	0	0
Total	0	0	0
CWC	0	0	0
ANC	0	0	0
PNC	0	0	0
FP	0	0	0
Total	0	0	0
Dental New	0	0	0

	Gen.Adult	Paediatrics	Maternity	Amenity	Total
Discharges	0	0	0	0	0
Deaths	0	0	0	0	0
Absconders	0	0	0	0	0
Total Discharges	0	0	0	0	0
Admissions	0	0	0	0	0
Parolees	0	0	0	0	0
Occupied Bed Days	0	0	0	0	0
Well Person Days	0	0	0	0	0
Beds Authorized	0	0	0	0	0
Cots Authorized	0	0	0	0	0
Beds Actual	0	0	0	0	0
Cots Actual	0	0	0	0	0

Mater_Normal	0	Ops_Minor_Surg	0
Mater_Abnormal	0	Ops_Circumcision	0
Mater_CSection	0	Ops_Major_Surg	0
Mater_BBA	0		
Mater_MDeaths	0	SS_Lab_Tests	0

i)   Reference Tables

Screens will be required for entry and update of :

- Provinces
- Districts
- Facilities
- Facility Types
- Expenditure Categories
- Bank Accounts

i)   Provinces

The provincial codes will come from the H.I.S. department. Any changes to provincial codes will be entered on the D.H.C.F. System and sent to the provinces.

We must ensure that each change in codes is communicated to D.H.C.F. by the H.I.S. department.

Note that each provincial system will just have one record on the Province file for the respective province.

The provincial systems will not be allowed to make changes to the Province File.

ii)   Districts

The district codes will come from the H.I.S. department. Any changes to district codes will be entered on the D.H.C.F. system and sent to the provinces.

We must ensure that each change in codes is communicated to D.H.C.F. by the H.I.S. department.

The provincial systems will only keep records for districts in their province in their district file.

The provincial systems will not be allowed to make changes to the District File.

iii) Facilities

The facility codes will come to the D.H.C.F. from the H.I.S. department on a regular basis on a diskette.

When the diskette is received, a routine will be run which will:
- look for any new facilities
- look for any facilities that were removed
- look for any facilities whose codes have been changed
- look for any facilities whose district or provincial codes have changed
- look for any districts / provinces used on the facility file that do not currently exist on the F.I.S. district or provincial file.

A report will print a list of any of the above changes. The D.H.C.F. will then have the option to incorporate the changes into the F.I.S. If the changes are incorporated, then the routine will :
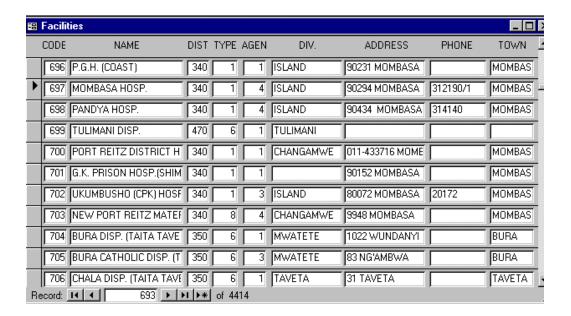
- update all of the reference facility, district and provincial files with the additions
- update the reference facility file with deletions, as long as no records that reference the deleted facilities are found in any of the data files
- update the reference facility file with changes to facility code, as long as the old facility code has been identified and records on the data files that used the old facility code have been converted to use the new facility code.

The new facility file, containing facilities in each province, will be sent to the provinces on a diskette, and a similar routine will run at the provincial level to update the facility and data files.

We must ensure that regular diskettes with the current facility file come to the D.H.C.F. from the H.I.S. department.

The provincial systems will only keep records for facilities in their province in their facility file.

The provincial systems will not be allowed to make changes to the Facility File for the facility name, facility code, district code or provincial code. They will be allowed to change other fields such as

CODE	NAME	DIST	TYPE	AGEN	DIV.	ADDRESS	PHONE	TOWN
696	P.G.H. (COAST)	340	1	1	ISLAND	90231 MOMBASA		MOMBAS
697	MOMBASA HOSP.	340	1	4	ISLAND	90294 MOMBASA	312190/1	MOMBAS
698	PANDYA HOSP.	340	1	4	ISLAND	90434 MOMBASA	314140	MOMBAS
699	TULIMANI DISP.	470	6	1	TULIMANI			
700	PORT REITZ DISTRICT H	340	1	1	CHANGAMWE	011-433716 MOME		MOMBAS
701	G.K. PRISON HOSP.(SHIM	340	1	1		90152 MOMBASA		MOMBAS
702	UKUMBUSHO (CPK) HOSP	340	1	3	ISLAND	80072 MOMBASA	20172	MOMBAS
703	NEW PORT REITZ MATEF	340	8	4	CHANGAMWE	9948 MOMBASA		MOMBAS
704	BURA DISP. (TAITA TAVE	350	6	1	MWATETE	1022 WUNDANYI		BURA
705	BURA CATHOLIC DISP. (T	350	6	3	MWATETE	83 NG'AMBWA		BURA
706	CHALA DISP. (TAITA TAVE	350	6	1	TAVETA	31 TAVETA		TAVETA

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Note that the updating of facility, district and provincial information will be coordinated with the H.I.S. System.

ii)   Additional Screens Required

Computer System Needs Screens for:

a)   Change of AIE Categories

If you do not spend the whole AIE, then you can request a change of category. These changes must go into the computer.

b)   Calculation of NHIF Targets

There are a number of ways of doing this:
Use the Ward Census Information:
When you count the number of bed nights, you would also count the number of NHIF bed nights. Then you would calculate the Target NHIF figure as

"daily rate * the number of NHIF bed nights

c)   Redrawing District Boundaries

The system will have a feature that will simplify the process of reallocating facilities to new districts, when district boundaries are redrawn, or new districts created. Data Dynamics is aware that this is a big problem for district/province based systems in Kenya. The feature will let users choose new districts for a number of facilities, and then it will automatically reallocate all related computer records for that facility to the new district.

iii)   *Additional Reports Required*

a)   PHC Reports
PHC Coordinator needs a report showing:
- 25 % Collections for PHC
- A.I.E's that were for the 25% PHC part - itemized to exp. Category.
- Actual expenditures for PHC - itemized to exp. Category.

b)   Exception Reports
The system will allow a series of *exception reports* which highlight problem events, or events that have not happened, such as:
- a list - by district - of facilities that have not reported
- a list - by province - of districts that have not attained target reporting rates
- a list - by facility - of districts where reported expenditure exceeds AIE allocations

Exception reports simplify the management task of targeting problem areas

c)   Management Query Facility

This will let advanced users extract data based upon their own criteria, or look at the data or summaries in a variety of ways.

d)   Other Reports

A report that shows just collections vs. money banked with percentages.

4.   Limitations of Current System and Suggestions to Rectify

i)   *Overall*

Reporting Rates are Low. Ian Sliney estimates that Hospital reporting rates are at 55 % and Health Centres at 11 %. He also estimates that collection reporting, which is currently at Shs 200 million, is actually over Shs 450 million.

The new system should produce exception and follow-up reports that will make it easy for the PMO or the DMO to receive information as to which facilities have not reported. Obviously, follow-up will still be an issue.

Workload information is needed to set expenditure targets. Currently, this information is collected by the H.I.S. department at the national level and then forms are passed to the F.I.S. There are very low reporting rates.

The new system will incorporate the collection of the workload information at the Provincial Level, with exception reporting for facilities that have not reported. Hopefully, this decentralization will enable better collection and follow-up.

ii)   *Collections*

The computer system does not have entry fields for all of the category types that are reported on the collections form. For example, facilities routinely report collection figures for "inpatient fees" and for "theatre", but there is no place to enter "theatre", so the theatre figure is added to the inpatient fees figure and entered.

The new system should allow entry of all collection categories.

In the current system, the computer operator adds up all daily collection figures with a calculator (per collection category) and then enters the total monthly figure into the computer. This can lead to errors in calculation, or in transferring the figure to the computer.

The new system should allow a pop-up 'calculator' module for adding up the daily figures, which will automatically transfer the total monthly figure to the F.I.S.

In the current system, the calculated total figure is entered, even if it is different from the reported total figure.

The new system should accept entry of the reported total figure and the calculated total figure. An exception report should list facilities that have made calculation mistakes - i.e: those that have different calculated and reported total figures.

iii) Budgets (A.I.E's)

The system currently asks for a month, but the A.I.E. is not really a monthly form.

The new system should ask for a date and AIE # which will help the AIE holder keep track of AIE's issued.

The computer operator has to look at budget line items and 'interpret' into which expenditure category they fall. Observations showed that this interpretation is inconsistent.

The new system should require AIE's line items to be coded with a treasury expenditure category, because the AIE issuer is in a better position to know the appropriate expenditure category than the computer entry clerk.

We should add a column for expenditure category to the AIE.

The computer operator calculates the total A.I.E. figure with a calculator and enters the calculated total figure into the computer, even if it is different from the reported total figure. The operators have reported that about 5% of A.I.E.s have calculation mistakes.

The new system should calculate the total figure and store it, and also should accept entry of the reported total figure. An exception report should list A.I.E.'s on which there have been calculation mistakes - i.e: those that have different calculated and reported total figures.

iv) Actual Expenditures

The current computer system does not allow entry for all fields that exist on the form. For example, there are no fields for entry of 'laboratory', 'theatre', 'mortuary', etc.

The new system should allow entry of all expenditure categories.

The form does not have enough expenditure categories to accommodate the actual expenditure categories used.

This is a difficult issue, as there is a limit to the categories that can fit on a form. The only options for a manual reporting system are:

A form like the current one that has 'fixed' categories for expenditure:

Expenditures

Facility _____
Month_____ Year_____

Date	Name	Transpt.	Travel	Electric	Drugs	X-Ray	PHC	etc	etc
Total Expend.									

A form similar to the current one that has 'fixed' categories for expenditure the most common expenditure categories, and then 'variable' expenditure categories for the facilities to input the other categories they use:

Expenditures

Facility _____
Month_____ Year_____

Date	Name	Transpt.	Travel	Electric	etc	Cat ____	Cat ____	Cat ___	Cat ___
Total Expend.									

A form that does not have any fixed expenditure categories, but requires the facility to enter an expenditure category for each item:

Expenditures

Facility _____
Month_____ Year_____

Date	Name	Category	Amount	Date	Name	Category	Amount
Total Expend.				Total Expend			

Total Reported Expend/	

(The problem with this type of form is that it is not easy - without a computer- to track totals per expenditure category, or view expenditure totals versus budgets. In manual accounting systems, this type of form is usually used in conjunction with a separate ledger. The form has a reference to a page (folio) number in the ledger, and the ledger has a separate page for each expenditure category.

The new system will have to choose an appropriate format for the expenditure reporting form - and this will require training at the facility level.

Related to the above issue, the current form does not break down the PHC expenditures. There is only one category for 'PHC'. The PHC department needs actual expenditures broken down into PHC expenditure categories, as per pp. 66-67 of the supervision manual. There are over 10 categories that would probably not be used for non-PHC activities. So the PHC categories compound the issue above that there are not enough spaces for all expenditure categories on the form.

When deciding on the format for the expenditure reporting form, we will have to decide whether PHC expenditures should be broken down into the component categories.

In general, the form does not seem appropriate for the purpose-at-hand. The form only asks about expenditures in the current month. However, certain districts seem to write other information on the form, including

- A.I.E budgets (current A.I.E's and A.I.E. Balances Brought Forward, by expenditure category)
- Previous months accumulative expenditures by category.
- Commitments by category
- Unspent balance by category

This is useful (indeed - necessary) information for the facilities, however it is confusing for the computer operators. I witnessed examples of operators entering the "previous month cumulative figure", rather than the current month.

Possibly, the form should be modified to include designated spaces for other required information. Training will be required.

An alternate suggestion would be to greatly simplify the system so that the expenditure and commitment data comes from the District Accountants, rather than the hospitals. The format would be:

Expenditures / Commitments									
Facility _____									
Month_____ **Year**_____									
Item Code	Item Desc	Cum A.I.E.	Cum Expendit ures	Unspent Committ ments	Item Code	Item Desc	Cum A.I.E.	Cum Expendit ures	Unspent Committ ments
Total					Total				

When designing the system, we should seriously consider the district treasuries as an alternate (and possibly more accurate) source of expenditure and commitment information.

The computer operator calculates the total monthly expenditure figure (by expenditure category) with a calculator and enters the calculated total figure into the computer, even if it is different from the reported total figure.

The new system should incorporate a 'calculator' module' and should calculate and store the total monthly figure. It should also accept entry of the reported monthly total figures. An exception report should list facilities on which there have been calculation mistakes - i.e: those that have different calculated and reported total figures.

v)   Workload Data Component of FIS

The F.I.S. needs workload information in order to estimate budgets and collection estimates.

Currently workload information for hospitals is prepared monthly on form 717 by the hospitals and goes directly to the H.I.S. Department in Afya House; it is prepared quarterly by health centres and dispensaries.

The H.I.S. department has experienced low reporting rates. They have agreed that the workload form 717 can be sent directly to the PMO office and entered into the F.I.S. It will then be transferred electronically to Nairobi and given to H.I.S. on diskette.

Information Flow:

In the new system, we agreed that workload information should pass:

Hospital->PMO's Office->Entered into System->Aphia->HIS

The F.I.S. will output new workload data in DBF data formats. The formats will be finalized with Mac Mwariri, who does programming of the H.I.S. workload system.

Also note that when we receive information, we need to check that facility information has not been changed, and pass on a report of any updates before we upload any files.

vi)   Data Coding and Coordination with HIS

We will start the system with HIS Codes.

We agreed that new codes must come from HIS.

Updates of names/districts/other information can be done at the provincial level.

5. General System Features

i) Integration with Other Programmes

The system will allow the integration of any required management information into spreadsheet, graphics and word-processing format as seamlessly as possible. So, for example, a report showing facilities that have not reported for the last month can be integrated directly into a letter to the District Health Officer.

ii) Reporting

All reports will have a "what you see is what you get" (WYSIWYG) print-preview. This means that you can first look at reports on the screen, and they will appear exactly as they would on paper. Often, looking at the report on the screen is all that a manager needs to see. But if a hard copy is required, then simply pressing "Print" will send the report to either plain cut-sheet A4 paper or continuous paper on any printer.

iii) Year 2000 Compliance

The new system database should correctly store dates before, during, and after the date 1st January 2000. In addition, calculations involving date should be correct before, during, and after the date 1st January 2000.

iv) Network Operating System

The new system should be Windows based; That is, the user interface will have a standard Windows look and the database engine will be 32-bit.

Benefits for moving to 32-bit Windows are speed of processing, faster learning for users, easier data entry (which implies less mistakes), and future compatibility (as new software applications will necessitate upgrading to Windows 95/ NT).

v) System Requirements

System requirements will be, at a minimum:
- A server with Windows NT and 32 MB RAM and 10 MB free hard disk space (on installation on the network)
- Workstations with Windows 95 or Windows NT and 32 MB of RAM (or for installation on a standalone PC)

- A modem link for support.
- A mass storage backup device.
- A printer.

vi)   Training

Each User will require training in the FIS system training. Basic knowledge and experience in using Microsoft Windows 95 or NT or Microsoft Office products is a pre-requisite. We will evaluate skill levels and recommend any additional background training if we think it is necessary.

vii)   Data Entry and Testing

The new and existing systems will be run in parallel to ensure the new system is giving the desired results, before the old system is discontinued.

Appendix 1 - Existing Computers and Recommendations for Computer Supply

This is a summary of the computers that are currently used by offices that will run the new F.I.S :

Provincial Level

Coast Province
PMO's Office has a 486-33 supplied by the HCF Project with 8 mb RAM and an 800 Mb Hard Disk (with 300 Mb Available). It runs Windows '95 and prints to an Okidata Dot Matrix

H.I.S. Department has a BTI Pentium 100, supplied through the Health Sector Support Programme. It has 16 Mb RAM and a 1.2 Gb Hard Disk (with 583 Mb. Available). It runs Windows '95 and prints to a H.P. 5L

Computers are maintained by DataPoint and CompuPhoto.

Eastern Province
PMO's Office has a 486-33 supplied by the HCF Project with 8 mb RAM and an 850 Mb Hard Disk (with 407 Mb Available). It runs Windows '95 and prints to an Olivetti Dot Matrix

They also have a BTI Pentium 100, supplied through the Health Sector Support Programme. It has 16 Mb RAM and a 1.2 Gb Hard Disk (with 950 Mb. Available). It runs Windows '95 and prints to a H.P. 5L

Computers have not needed maintenance - one printer was sent to HCF in Nairobi for repair.

HCF Level
The H.C.F. uses a Windows '95 based network of desktops and laptops, most of them Pentiums with 8 Mb - 32 Mb of RAM.

H.I.S. Level
The H.I.S. uses 486 computers with 8 RAM and full hard disks. They will need a computer to run the Facility Information System and one for the Workload data - do not forget UPS units and Windows 95 software - necessary for any Access interfaces we will give them.

Recommendations for Supply

The PMO's offices are running Pentium Computers with 16 mb RAM and software that is unlicensed and has no manuals. The new system use Microsoft Access, which will run properly with 32 mb of RAM.

We should either upgrade the BTI Pentium Computers supplied by the Health Sector Reform Project to 32 mb RAM, or we should supply each PMO's office with the following:

- Computer with   Pentium II 333 MHZ Processor
         32-64 Mb RAM
         3.2 GB Hard Disk
         15" Monitor
         PCI Graphics Card with 4 Mb RAM
         1 Parallel / 2 Serial Ports
         3 ½ Inch Diskette Drive
         CD-ROM Drive
         33.6 Internal Modem
         Internal ZIP Drive for Making Backups
         Windows '95 Keyboard
         Windows '98
         Office '97 Professional

- UPS to run the computer and monitor for 15 minutes

- Wide-Carriage Dot-Matrix Printer

- Dust Covers for Computer / Monitor / Keyboard / Printer

- Diskette and CD ROM cleaning Kits

- Diskettes and Zip Disks

It is recommended that computers should be purchased centrally from a reputable dealer selling a reputable brand of computers that meets the following criteria:

- service branches in Nairobi, Mombasa, Kisumu (minimum)
- ability to provide 3 year warranty
- ability to guarantee acceptable down-time before replacement during warranty period.

Appendix 2 - Requirements for Training and Identified Personnel

Each PMO office must have the following personnel trained in the F.I.S:

- 2 persons from the PMO office trained in data entry, report production and system maintenance
- 2 persons from H.I.S. office (if one exists in the province) trained in data entry and report production
- PMO and Management trained in system and report production.

The requirements for this training are:

- Good working knowledge of Windows '95 or Windows '98
- Good working knowledge of Office '97
- Typing proficiency
- Good working knowledge of computers / folders / files / disk drives

If personnel are not qualified as above, they must receive training prior to the introduction of the F.I.S.

In addition, 2 persons from each PMO office should undergo a short course in computer maintenance.

Persons Identified for Training in Coast Province
Joyce Mshambala	-	Copy Typist, PMO's Office
Christine Kanisa	-	Copy Typist, PMO's Office
Daisy	-	Assistant to PMO
Jones Elvis Mwashusha		H.I.S.
Teda Juma	-	H.I.S.

All of the above are said to meet most of the prerequisites of F.I.S. training, though they could probably do with a refresher in computers, disks, drives, folders, and general maintenance.

Persons Identified for Training in Eastern Province:
Mr. Njeru	-	Clerical Officer, PMO's Office
Mr. Mwangi	-	Clerical Officer, PMO's Office
Mr. Muriuki	-	Clerical Officer, PMO's Office
Faith Ngai	-	Shorthand Typist
Elizabeth Wanja	-	Shorthand Typist

Mr. Mwangi and Mr. Njeru received training by Mr. Mutua from HCF earlier this year in basic computer operation and entering data into the F.I.S. The copy typists know the basics of Windows and Word 2.0.

They will all require some basic training before the F.I.S. training.

Appendix 3 - Use of Existing F.I.S.

Eastern Province

The PMO's office only enters collection and banking details. This is as far as they got in the training. Banking / Collection reports are produced and distributed and a disk reportedly sent to HCF on a monthly basis.

Coast Province

Data is entered into the F.I.S., however outputs are not utilized. Instead, the PMO keeps his own spreadsheets up-to-date with parallel financial information, and workload information. It is these spreadsheets that the PMO uses to produce reports and graphs.

Appendix 4 - Sample Data Showing the Need for a Report Linking Workload Data to Collection Data

The next page contains a report containing real data from a facility. It correlates, as best as possible, data showing:

- Workload data
- Fee data
- Collection Data

The point is that reported collections are drastically lower than what one would expect based on the workload data and current fee levels.

Appendix 5 - Recommended Forms for the New F.I.S.

The next pages contain the recommended formats for the forms of the new F.I.S.

Appendix 5 - Files and Forms Used in the Current F.I.S

The files in the current F.I.S. are:

ActExp   xx.dbf
Bank   xx.dbf
BudExp   xx.dbf

DbFields   .dbf
District   .dbf
Facility   .dbf
FacType   .dbf
Province   .dbf
Target   .dbf

The forms in the current F.I.S. are:

Expenditure - actual monthly expenditure by facility, by expenditure item

Collections - actual monthly collections by facility, by department

AIE - each AIE (though monthly entry) , broken down by expenditure item

Questions:

1. Do we get the Bank Balance / Cash Book Balance from the Bank Reconciliation form (District Accountant) or by including these fields on the collection form?

2. Do we get the bank balance / Cash Book Balance:
   per facility / per district / per bank account - linked to district?

3. Do we calculate the targets through the system, or just :
   present workload information in a spreadsheet
   calculate the targets through a separate exercise
   input target figures into F.I.S?

4. Do we need a database listing fees for each facility?
   How would we get updates?

5. Do we need a database listing variables for targets for each facility:
   % paying
   % nhif per ward
   etc

6. If we are to calculate targets, do we need to modify the workload form to make target calculations exact, or are estimates good enough?

7. We need to get *exact* agreement so that there is 100% correlation between targets, workload and collections (and maybe expenditures).

8. Does PMO get form 717A in all provinces?

Where is the appropriate place to get the following information::

- annual NHIF Targets

- annual Collection Targets

- Banking
  - Monthly fees banked
  - interest earned
  - other payments
  - other receipts
  - balance

- NHIF receivable

Workshop Prices
fairview
799/- pp
3000/-
35

747030/98 - landmark

251333 - safari club
7-8th
teas, lunch, room
1180/-
1050/- (members)

Afya House   -   717077
Mac Mwariri   -   227411 x 22174
Dr. Sharif   -   011-

Other Notes

Fields not used on current FIS
AIE
Other Payments
Balance Brought Forward
Total Balance.
Expenditures
Loans Made
Loans Paid
Loans B/F

Silas and Ian want the PS to get, at press of button:

revenues
reporting rates
closeness to target

NHIF Receivables
(NHIF expected revenue can be calculated by bed occupancy x fee)
For facility, wants revenues and workload information to compare.
tool for planning for targeting of expenditure.

How to adjust reported collections to estimated :
1) moving averages
2) extrapolation of data